Department of Horticulture

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Growing Asparagus In The Home Garden

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Asparagus is a long-lived perennial vegetable crop that is enjoyed by many gardeners. It can be productive for 15 or more years if given proper care.

Soil requirements

Asparagus grows in most any soil as long as it has good drainage. Waterlogged soils favor development of crown and root rot. Asparagus prefers a soil pH of 6.5-7.5, and will not do well if the pH is less than 6.0. Have the soil tested to determine phosphorus and potassium needs; or add 20 lbs. of a 10-20-10 or similar analysis fertilizer per 1,000 square feet, tilled to a 6-inch depth before planting. If natural fertilizer is preferred, you can use a combination of well-rotted livestock manure, blood meal, bone meal, and wood ash. For more information on natural sources of plant nutrients, see the following web sites.

http://www.attra.org/attra-pub/manures.html

http://www.attra.org/attra-pub/orgfert.html

http://www.attra.org/attra-pub/soilmgt.html

Cultivars

Select the new all-male hybrid asparagus cultivars such as Jersey Giant, Jersey King, Jersey Prince, and Jersey Knight. Seeds produced on female plants fall to the ground and become a seedling weed problem in the garden. Female plants also have to expend more energy to produce the seeds, resulting in decreased yields of spears on female plants. The all-male hybrids out-yield the old Mary Washington cultivars by 3 to 1. To add a bit of color to your asparagus planting, try one of the cultivars such as 'Purple Passion', or 'Sweet Purple'. The purple color does wash away when fully cooked, but the spears are about the size of Jersey Knight. Purple Passion does have both male and female plants so yields will be less than with the all-male hybrids.

Many gardeners still have older cultivars such as Mary Washington and Martha Washington in their planting. Though not as productive as some of the newer cultivars, these old standbys can remain productive for many years.

Planting

Buy one-year-old, healthy, disease-free crowns from a reputable garden center or mail-order company. A crown is the compressed stem and attached root system of a young asparagus plant raised from hybrid seed. Each crown can produce 1/2 lb. of spears per year when fully established.

Gardeners can plant asparagus from seed. However, caring for the small seedlings until they become established can be time consuming. Also, because the seeds are spaced a few inches apart, the crowns will have to be dug and transplanted to their permanent, wider-spaced location in the garden after one year. Thus, one year of potential spear production is lost due to transplanting.

Asparagus can be planted throughout Indiana from early April to late May, after the soil has warmed up to about 50 degrees F. There is no advantage to planting the crowns in cold, wet soils. They will not grow until the soil warms and there is danger of the plants being more susceptible to Fusarium rot if crowns are exposed to cold, wet soils over a prolonged period. Plant the asparagus at either the west or north side of the garden so that it will not shade the other vegetables and will not be injured when the rest of the garden is tilled.

Dig a furrow no deeper than 5 to 6 inches. Research has shown that the deeper asparagus crowns are planted, the more the total yield is reduced. Apply about 1 lb. of 0-46-0 (triple superphosphate) or 2 lbs.

of 0-20-0 (superphosphate), or 4 pounds of steamed bone meal per 50 feet of row in the bottom of the furrow before planting. This will make phosphorus immediately available to the crowns. Omitting this procedure will result in decreased yields and the spear production will not be as vigorous.

Place the crowns into the furrow 1-1/2 feet apart in the row. If more than one row is planted, space the rows five feet apart from center to center. Wide between-row spacing is necessary because the vigorously growing fern-like foliage will fill in the space quickly. Wide spacing also promotes rapid drying of the foliage to help prevent the onset of fungal diseases.

After planting, back fill the furrow to its original soil level. It isn't necessary to gradually cover the crowns with a few inches of soil until the furrow is filled in. However, do not compact the soil over the newly filled furrow or the emergence of the asparagus will be severely reduced. Spears should emerge within one week in moist soils.

Do not harvest the asparagus during the planting year. Spears will be produced from expanded buds on the crown. As the spears elongate and reach a height of about 8 to 9 inches, the tips will open. The spear will become woody to support the small branchlets of fern-like foliage. The foliage produces carbohydrates for the plant and sends it down to the crown for next year's spear production.

Asparagus is very drought tolerant once established and can usually grow without supplemental watering because it seeks moisture deep in the soil. However, newly-planted crowns will benefit from irrigation during dry spells. Otherwise the plants will become stressed and vigorous growth will be impeded.

Insects

Inspect the foliage throughout the season for insect feeding. Asparagus beetles chew on the foliage, causing the stem to turn brown and reducing the yield the next year. Spray the ferns with an approved insecticide when beetles are seen. If beetles are numerous, it might be wise to remove plant debris at the end of the growing season to reduce overwintering sites for the beetle.

See <http://www.entm.purdue.edu/Entomology/ext/targets/e-series/EseriesPDF/E-21.pdf>
E-21, Managing Insects in the Home Vegetable Garden for more information.

Disease

Rust is the most common and troublesome asparagus disease. Rust can reduce next year's yields to a few weak spears. It also weakens crowns, leaving them open to attack by soil-borne fungi. The disease first appears in spring as small, oval, yellowish spots on the stems and branches of wild volunteer plants. The spots later are surrounded by tiny, yellowish-orange, cup-shaped structures. Small, round to oblong, reddish-brown, powdery masses develop on stalks and leaves of plants in producing beds. Later in the season, black masses replace the reddish-brown pustules.

Some of the newer hybrids such as 'Jersey Giant' as said to be "slow-rusting" because they have some resistance to the disease. Grow rust-resistant cultivars and remove volunteer seedings in and around older plantings. If practical, spray the foliage after harvest has been discontinued with an approved fungicide according to label directions.

Fusarium crown and root rot causes yellowing and wilting of foliage. Plant only healthy crowns in areas that have not previously been infected. Also, provide good soil drainage and avoid wounding the plants during cultivation. Wounds offer an entranceway for pathogens.

Weed Control

Weed control can be accomplished by hand-pulling, hoeing, and cultivating during the first planting year. Labeled pre-emergence herbicides may be used during subsequent growing seasons according to label directions. In established plantings **after** the last harvest when no asparagus foliage is above ground, a home garden formulation of glyphosate non-selective herbicide can be sprayed to kill any existing weeds. Be sure to read and follow all label directions.

Do not use salt as a weed killer. It will not harm the asparagus, but it inhibits water penetration in the soil. Also, rains can leach the salt out of the asparagus bed and into the rest of the garden, injuring other vegetables that are less salt tolerant than asparagus.

For more information, see <http://www.agcom.purdue.edu/AgCom/Pubs/HO/HO-217.pdf>, HO-217 Weed Control for the Garden & Landscape.

Harvesting

Asparagus spears will start to emerge when the soil temperature reaches 50 degrees F. After this, growth of asparagus is dependent on air temperature. Early in the season, 7 to 9 inch spears might be harvested every 2 to 4 days. As air temperatures increase, harvesting frequencies will increase to once or twice per day, harvesting 5 to 7 inch spears before the tips start to fern out and lose quality.

Harvest asparagus by snapping 7 to 9 inch spears with tight tips. There is no need to cut asparagus below the soil with a knife. This may injure other

buds on the crown that will send up new spears. The small stub that is left in the soil after snapping dries up and disintegrates. A new spear does not come up at the same spot, but from another bud on the crown.

As the tips of the spears start to loosen (known as "ferning out"), fiber begins to develop at the base of the spears, causing them to become tough. The diameter of the spear has no bearing on its toughness. When harvesting, the asparagus patch should be picked clean never allowing any spears to fern out, as this gives asparagus beetles an excellent site to lay their eggs.

The year after planting, asparagus can be harvested several times throughout a three-week period, depending on air temperatures. Research shows there is no need to wait two years after planting before harvesting. In fact, harvesting the year after planting will stimulate more bud production on the crown and provide greater yields in future years, as compared with waiting two years before harvesting.

Two years after planting, the length of harvest can increase to about 4 to 6 weeks. The third year after planting and thereafter, harvesting can continue for 6 to 8 weeks. Since the length of harvest season will vary from year-to-year depending on air temperature, stop the harvest when the diameter of 3/4 of the spears becomes small (less then 3/8 inch). Experience gained by growing the crop will make it easier for the gardener to know when to discontinue the harvest.

For your last harvest, snap all the spears off at ground level. To encourage foliage growth for the rest of the growing season, apply 1/2 lb. of ammonium nitrate fertilizer per 50 feet of row or sidedress with fish emulsion or similar material. Now is the time to remove existing weeds, either by shallow cultivation, hand-pulling, or with herbicide according to label directions. New spears will then emerge, fern out, and provide a large canopy to cover the space between the rows. Once a dense fern canopy is formed, weed growth will be shaded out.

Storage

Asparagus is very perishable and should be harvested in the morning when air temperatures are cool. After picking, immerse the spears in ice-cold water to remove the heat; then drain the water and place the spears in plastic bags. Store in the refrigerator at 38 to 40 degrees F. Asparagus will keep for 1 to 2 weeks with little loss of quality.

For information about freezing asparagus, see

http://www.msue.msu.edu/imp/mod01/01600513.html

http://www.foodsafety.ufl.edu/consumer/il/il032.htm

Removal of Old Tops

The tops should be allowed to remain as long as they are green. This foliage is making the food reserves to store for next year's crop. If plants have been healthy throughout the growing season, it can be helpful to leave the dead tops in place for the winter. They will collect snow and insulate the crowns. However, if insects and/or disease have been a problem, it is best to remove the tops after they turn yellow or brown at the end of the season. Remove the old tops by cutting or mowing as low as possible before the emergence of new spears in the spring.